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Water Conservation for Your HOLIDAY BERRIES

Cranberries, as part of the holiday meal, are an American tradition. In the past few years they have been marketed in various forms, besides fresh berries and prepared sauce. Cranberry juice, cranberry-orange relish, and bread are a few of the recently introduced products. N–58080

"The Cranberry Experiment Station and the Weather Bureau forecast dangerous frost on bogs tonight, probable temperature 25-degrees."

That report on August 30, 1965, had an important bearing on the quantity, quality, and price of cranberries on American dinner tables this Thanksgiving. The report was issued from the Massachusetts Cranberry Experiment Station. It is in the heart of an area that contains over half the world's acreage of cranberry bogs, only a few miles from historic Plymouth Rock where the Pilgrims landed in 1620.

The ability of cranberry producers to do something about the unseasonally cool weather was even more important. The defense against mother nature used one of her own products, water.

Warnings for hazardous frost conditions are issued on the average of 10 to 14 nights each spring and each fall. They are quickly relayed via radio and telephone, beginning a long night's vigil for individual producers. When the temperature reaches the danger point, about 29 or 30 degrees, they take action against frost.

Machines are rapidly taking over the harvest operation. The production, processing, and marketing of cranberries means jobs for hundreds of people. Plymouth County, where most of the area's production takes place, has 470 producers and 2,800 acres of bogs. Values of the 1965 Massachusetts crop will total 9¾ million dollars to the growers. Gross distributor sales amount to $32 million. Over 80% of the crop is marketed through Ocean Spray, a cooperative owned by the producers. Mass–229

SAVING WATER

The conventional method of frost protection is to completely flood the bogs to vine level. The water raises the temperature, protecting the crop. But in recent years sprinkler systems have been installed in many bogs.

Sprinklers have several advantages over the flooding method. The most pronounced is the conservation of water. Sprinklers effect a 90 percent savings in water use on the bogs.

This means that nearby towns and industry will have more water available for present and future needs. It also means that the available supply won't have to be spread so thin in years of drought such as has been experienced in the past few years. This year many bogs had no water at all for flooding.

DEMANDS ON WATER

Increasing population, increasing municipal use, and probably most important of all, increasing resort use by the vacationing public on nearby Cape Cod has demanded a greater conservation of water in the region.

In the northern part of the area, the majority of the bogs are located on bodies of water which have recently been included in the supply system of the city of Brockton. Water levels on those ponds, according to USDA's Soil Conservation Service at Brockton, have been lowered to such an extent that long established pumping plants are high and dry.

Further south in Plymouth County, towns are becoming interested in ponds and reservoirs used by bogs for generations. As time passes, less water will be available to the cranberry industry. Many believe that the survival of the industry is dependent upon more and better water conservation.

DEVELOPING WATER SUPPLIES

As a rule adequate supplies can be developed on bog properties. The usual source is provided by digging a pond, since the water table is generally high.

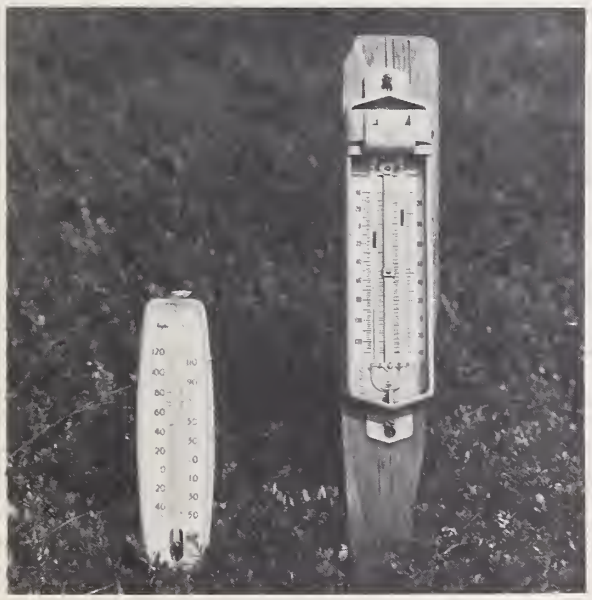
During the drought and with increased demand excavation costs have often doubled. Thus money—or the lack of it—is usually the controlling factor as in almost any conservation work.

To help assure the public that needed conservation work is carried out the Agricultural Conservation Program (ACP) has shared the cost of water holding structures, flumes, and more recently reorganization of irrigation systems to permit sprinkler irrigation.

The ACP is administered at the county level by a committee of the USDA's Agricultural Stabilization and Conservation Service. These committees consist of local farmers, elected by their neighbors. Their job is to see that the ACP and other farm action programs are administered to the best advantage of all the people.

It's quite fitting that the tradition of cranberries on the holiday table is made possible, at least in part, by all the people. For without sound water conservation methods a conflict of use between agriculture, industry and cities is a real possibility. The well-being of all segments is essential to our way of life.

Massachusetts bogs with their water supply. That nature has richly endowed this area with water is one of the main reasons for the size of the cranberry industry here. Making the water available is a story of cooperation between individual producers, the industry, the Cranberry Experiment Station and agencies of the USDA. Mass–205



A familiar sight on the bogs during the frost season, these thermometers tell growers when the temperature is approaching the danger point and record high and low temperatures. This picture taken on August 31, 1965, shows that the low the preceding night was 24-degrees, well below the danger point. Having water available is the grower's defense against frost. N–58067

An estimated 90% saving of water is effected by sprinklers which eliminates many hazards associated with flooding Cranberry flowers and the tender new berries can stand only a few hours of immersion, then must be drained. If protection is needed at harvest time the bogs can be sprinkled and then will quickly dry, permitting harvest to continue. N–58020

Cranberries grow low to the ground on bushes in the bogs. Water is used year-round to produce the crop and protect it from insects and frost damage. N–5806 4

Water is indispensable in cranberry production. On family farm operations like this one of George Peters of Kingston, Massachusetts, installation of proper conservation practices is often too costly for the individual to undertake on his own. ACP cost-share is an expression of the public's interest in conserving water. N–58052

Many changes have taken place on the bogs in recent years. George Peters, of Kingston, Mass., demonstrates a scoop used to harvest berries prior to introduction of mechanical harvesters. Economics have forced farmers to acquire more land to operate. Many leave farming for other means of livelihood. Water shortage has created a real problem for Peters. A sprinkler system on part of his bog area, recently installed following reorganization of the irrigation system with ACP cost-sharing, helped him conserve water and save his crop. It also means he will use less water throughout the year for irrigation. N–58066

Kenneth Rochfort of the Cranberry Experiment Station, East Wareham, Massachusetts, checks his weather instruments prior to compiling a frost warning report. N–58009

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